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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,116	03/06/2002	Heume Il Baek	041501-5489	5138

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EXAMINER	
NGUYEN, JIMMY H	

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/091,116	BAEK, HEUME IL	
	Examiner	Art Unit	
	Jimmy H. Nguyen	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,6,8,9,12,14,16 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 8* is/are allowed.

6)☒ Claim(s) *1,5,9,12,14,16 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 05/24/2005. Claims 1, 5, 6, 8, 9, 12, 14, 16 and 17 are currently pending in the application. An action follows below:

2. The indicated allowability of claims 14, 16 and 17 in the Office Action dated 03/10/2005 is hereby withdrawn in view of the new ground of the rejection below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5, 14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura (JP 2000-193936). See the English translation attached in the Office Action dated 3/25/2004, for the following rejections.

As per claims above, the claimed invention reads on Kimura as follows: Kimura discloses a LCD device (fig. 1) and an associate method for generating a reference voltage for a LCD device including a gamma reference voltage generating circuit which comprises a first reference potential generating section 46a (corresponding to the claimed first gamma power unit of claim 1 or a first power unit of claim 14, see fig. 2, page 16, paragraph 0115) having a terminal (fig. 2 shows a terminal connected to the top resistor of the first reference potential generating section

46a) for receiving a first power voltage from an inherent power converter (see fig. 2), a second reference potential generating section 46b (corresponding to the claimed second gamma power unit of claim 1 or the claimed second power unit of claim 14, see fig. 2, page 16, paragraph 0115) having a terminal (fig. 2 shows a terminal connected to the top resistor of the second reference potential generating section 46b) for receiving a second power voltage from an inherent power converter (see fig. 2), a potential section circuitry 47 (corresponding to the claimed switching unit of claim 1, see fig. 2, page 16, paragraph 0115), and an output section 48 (corresponding to the claimed buffer of claim 1, see fig. 2). Kimura further teaches the switching unit (47) synchronized with an ON/OFF state of the light source 21 (corresponding to the claimed backlight source) of the LCD (see fig. 1, abstract, page 15, paragraphs [0111] - [0114]). Regarding to the claimed feature, "selecting one of the first and second voltages", of claim 14 (see line 4), this feature is inherently taught by Kimura in order to selectively provide the first and second power voltage to the terminals of the first and second reference potential generating sections (46a, 46b), respectively. Accordingly, the elements and the steps in the claims above are read in the reference.

5. Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa et al. (USPN: 6,462,724 B1), hereinafter Ozawa.

As to claims 1 and 14, the claimed invention reads on Ozawa as follows: Ozawa discloses a LCD device (fig. 22) and an associate method for generating a reference voltage for a LCD device including a gamma reference voltage generating circuit (see fig. 25) which comprises a potential generating circuit 501 (corresponding to the claimed first gamma power unit of claim 1 or a first power unit of claim 14, see fig. 25) receiving a first power voltage and outputting a first

gamma voltage to the switch (506) (see fig. 25), a potential generating circuit 504 (corresponding to the claimed first gamma power unit of claim 1 or a first power unit of claim 14, see fig. 25) receiving a second power voltage and outputting a second gamma voltage to the switch (506) (see fig. 25); and a switch 506 (corresponding to the claimed switching unit, see fig. 25). Ozawa further teaches the switching unit (506) synchronized with an ON/OFF switch (5306) of a backlight source (a source including elements 5306, 5307 and 5309, see fig. 1, col. 35, lines 6-11) of the LCD. Regarding to the claimed feature, "selecting one of the first and second voltages", of claim 14 (see line 4), this feature is inherently taught by Ozawa in order to selectively provide the first and second power voltage to the first and second potential generating circuit (501, 504), respectively. Further, see col. 35, line 6 through col. 36, line 41. Accordingly, the elements and the steps in the claim are read in the Ozawa reference.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, and further in view of Kurihara et al. (USPN: 5,854,627), hereinafter Kurihara.

As per claim 16 as applied to claim 14 above, Kimura further teaches the first (46a) and second (46b) gamma power units using the received first and second power voltages. Kimura does not expressly teach the first and second power voltages different from each other.

Accordingly, Kimura discloses all the claimed limitations except that Kimura does not disclose expressly that the first and second power voltages are different, as presently claimed.

However, as noting in fig. 2, Kurihara discloses the first gamma power unit (a unit comprising resistors R81-R88, see fig. 2) receiving and using a first power voltage of 2.8V to generate a voltage of 2.53V, which is different from a second power voltage of 0.6V received and used by the second gamma power unit (a unit comprising resistors R11-R17, see fig. 2), to generate a voltage of 0.56V. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to make the Kimura first power voltage different from the Kimura second power voltage, in view of the teaching in the Kurihara reference, because this would generate a plurality of different desired voltages while using a low power consumption due to a decrease of the amount of current flowing in the resistors, as taught by Kurihara (col. 4, line 66 through col. 5, line 12).

As per claim 9, the claimed invention reads on Kimura as follows: Kimura discloses a LCD device (see fig. 1) comprising a LCD panel (1), a data side actuation circuit 42 (corresponding to the claimed source driving circuit, see fig. 1, page 15, paragraph 0109), a gate side actuation circuit 41 (corresponding to the claimed gate driving circuit, see fig. 1, page 15, paragraph 0109), a first reference potential generating section 46a (corresponding to the claimed first output unit, see fig. 2, page 16, paragraph 0115) receiving from an inherent power converter a first power voltage via a terminal, which is connected to the top resistor of the first output unit (46a) (see fig. 2), a second reference potential generating section 46b (corresponding to the claimed second output unit, see fig. 2, page 16, paragraph 0115) receiving from the inherent power converter a second power voltage via a terminal, which is connected to the top resistor of

the second output unit (46b) (see fig. 2), and an output section (48) (corresponding to the claimed buffer). Accordingly, Kimura discloses all the claimed limitations except for a switching unit selecting one of the first and second voltages from the power converter, as presently claimed.

However, as noting in fig. 7, Kurihara discloses a switching unit (a selector switch 5) capable of selecting one of a plurality of voltages from a power converter (a power converter 1, see fig. 7). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide a switching unit in the Kimura device, in view of the teaching in the Kimura reference, because a person of ordinary skill in the art at the time of the invention was made would recognize that the benefit of using the switching unit in the Kimura device would provide a LCD capable of selectively providing voltages to the source driving circuit, thereby improving the image quality.

As per claim 12, see the rejection to claim 16 above.

8. Claims 5, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa as applied to claim 1, and further in view of Kurihara.

As to claim 16 as applied to claim 14 above, Ozawa discloses all the claimed limitations except that Ozawa does not disclose expressly that the first and second power voltages are different, as presently claimed.

However, Kurihara discloses a first gamma power unit (a unit comprising resistors R81-R88, see fig. 2) using a received first power voltage of 2.8V from a power converter (a converter comprising resistors R1-R8, see fig. 2) to generate a voltage of 2.53V, and a second gamma power unit (a unit comprising resistors R11-R17, see fig. 2) using a received second power voltage of 0.6V from the power converter to generate a voltage of 0.56V. It would have been

obvious to a person of ordinary skill in the art at the time of the invention was made to make the Ozawa first power voltage different from the Ozawa second power voltage, in view of the teaching in the Kurihara reference, because this would generate a plurality of different desired voltages while using a low power consumption due to a decrease of the amount of current flowing in the resistors, as taught by Kurihara (col. 4, line 66 through col. 5, line 12).

As to claims 5 and 17, as noting in fig. 25, Ozawa discloses the output voltage (507) from the switching unit (506), providing to the source driver circuit (5302). Accordingly, Ozawa discloses all the claimed limitations except for a buffer buffering the voltage. However, as noting in fig. 13a, Kurihara discloses expressly that the voltage being amplified by the buffer circuit (OP0-OP9), in order to ensure sufficient powers before being supplied to the data driver is well-known to one of ordinary skill in the art at the time of the invention was made (col. 3, lines 51-55). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide the Kurihara buffer circuit in the Ozawa device, in view of the teaching in the Kurihara reference, because this would ensure sufficient powers before being supplied to the data driver, as taught by Kurihara, thereby improving high picture quality.

Allowable Subject Matter

9. Claims 6 and 8 are allowed. See the statement of reasons for the indication of allowable subject matter in the Office Action dated 3/25/2004.

Response to Arguments

10. Applicant's arguments, see pages 7-9 of the amendment, filed 5/24/2005, with respect to the rejection under 35 USC 112, first and second paragraphs in the Office Action dated 3/10/2005, have been fully considered and are persuasive in light of the amendments to

independent claims 1, and 9. The rejections under 35 USC 112, first and second paragraphs in the Office Action dated 3/10/2005 have been withdrawn.

11. Applicant's argument, see page 10 of the amendment filed on 5/24/2005, with respect the newly added feature, "the switching unit is synchronized with a backlight source of the liquid crystal display" recited in last two lines of independent claim 1, has been considered but are not persuasive. See the new grounds of the rejection above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
June 30, 2005

Jimmy H. Nguyen
Primary Examiner
Art Unit: 2673